

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 07097299
PUBLICATION DATE : 11-04-95

APPLICATION DATE : 28-09-93
APPLICATION NUMBER : 05264188

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INT.CL. : C30B 29/36 C04B 41/91 C30B 23/02 H01L 21/308

TITLE : METHOD FOR GROWING SiC SINGLE CRYSTAL

ABSTRACT : PURPOSE: To enable the growth of an SiC seed crystal ingot having high quality by removing the crystal surface of a prescribed seed crystal by molten KOH etching.

CONSTITUTION: A single crystal ingot grown on the {0001} plane of an SiC single crystal is longitudinally cut and mirror-polished to obtain a {1010} wafer. The surface of the wafer is etched with molten KOH at about 530°C for about 15min. A crystal is grown on the etched wafer surface at a raw material temperature of about 2360°C, a substrate temperature of about 2300°C, an atmospheric pressure of about 20 Torr and a growth rate of about 1mm/h in the direction vertical to the substrate. A wafer having an off-angle of about 5° relative to the {0001} plane is sliced from the obtained crystal and etched with molten KOH to produce an SiC single crystal having conchoidal etch pits at both sides of the boundary between the seed crystal and the grown crystal on the wafer surface.

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